



PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Application of: PROBER ET AL.

CASE NO.: CL1665 US NA

APPLICATION NO.: 10,702,320

GROUP ART UNIT: UNKNOWN

FILED: NOVEMBER 5, 2003

EXAMINER: UNKNOWN

FOR: **MICROPARTICLE-BASED METHODS AND SYSTEMS AND APPLICATIONS THEREOF**

INFORMATION DISCLOSURE STATEMENT

Assistant Commissioner for Patents
Washington, D.C. 20231

Sir:

In compliance with 37 CFR 1.97 and 1.98, Applicants bring to the attention of the U.S. Patent and Trademark Office information listed on the enclosed PTO/SB/08A and PTO/SB/08B . A copy of the information is also enclosed.

Should any fee be required in connection with the filing of this Information Disclosure Statement, please charge such fee to Deposit Account No. 04-1928 (E. I. du Pont de Nemours and Company).

Respectfully submitted,

S. NEIL FELTHAM
Attorney for Applicant(s)
Registration No. 36,506
Telephone: (302) 992-6460
Facsimile: (302) 892-7949

Dated: 12/31/03

Enclosures

I HEREBY CERTIFY THAT THIS PAPER IS BEING DEPOSITED WITH THE UNITED STATES POSTAL SERVICE AS FIRST CLASS MAIL IN AN ENVELOPE ADDRESSED TO: COMMISSIONER FOR PATENT, P.O. BOX 1450, ALEXANDRIA, VA 22313-1450, ON THIS DATE.

12/31/03
DATE

MARY BETH PITCHER

+

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Complete if Known

U.S. PATENT & TRADEMARK OFFICE
JAN 02 2004

Application Number	10/702,320
Filing Date	NOVEMBER 5, 2003
First Named Inventor	PROBER ET AL.
Group Art Unit	UNKNOWN
Examiner Name	UNKNOWN
Attorney Docket Number	CL1665 US NA

Sheet	1	of	4
-------	---	----	---

[illegible][illegible]Date
Considered

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, Washington, DC 20231. **DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231.**

+

Please type a plus sign (+) inside this box → +

PTO/SB/08A (08-00)

Approved for use through 10/31/2002. OMB 0651-0031
U.S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449A/PTO

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(use as many sheets as necessary)

2 of 4

Complete if Known

Application Number	10/702,320
Filing Date	NOVEMBER 5, 2003
First Named Inventor	PROBER ET AL.
Group Art Unit	UNKNOWN
Examiner Name	UNKNOWN
Attorney Docket Number	CL1665 US NA



OTHER PRIOR ART -- NON PATENT LITERATURE DOCUMENTS

Examiner Initials *	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ²
		Schena, M. et al., Quantitative monitoring of gene expression patterns with a complementary DNA microarray, Science 270, 467-470, 1995	
		Shalon et al., A DNA microarray system for analyzing complex DNA samples using two-color fluorescent probe hybridization, Genome Res. 6, pp. 639-645, 1996	
		Weinberger et al., Current achievements using ProteinChip® Array technology, Curr. Opin. Chem. Biol., 6(1), pp. 86-91, 2002	
		Nelson et al., Surface plasmon resonance imaging measurements of DNA and RNA hybridization adsorption onto DNA microarrays, Anal. Chem. 73, 1-7, 2001	
		Xu et al., Multiplexed SNP genotyping using the Qbead™ system; a quantum dot-encoded microsphere-based assay, Nucleic Acids Research 31(8), e43 2003	
		Nicewarmer-Pena et al., Submicrometer metallic barcodes, Science 294, pp. 137-141, 2001	
		Walton et al., Particles for multiplexed analysis in solution: detection and identification of striped metallic particles using optical microscopy, Anal. Chem. 74, pp. 2240-2247, 2002	
		Bohren et al., Absorption and scattering of Light by Small Particles, John Wiley and Sons, 1983	
		Kerker, M., Scattering of Light and Other Electromagnetic Radiation, Academic Press, 1969	
		Chylek et al., Narrow resonance structure in the Mie scattering characteristics, Appl. Optics 17, pp. 3019-3021, 1978	
		Conwell et al., Resonant spectra of dielectric spheres, J. Opt. Soc. America A 1, 62-67, 1984	
		Probert-Jones, J. R. Resonance component of backscattering by large dielectric spheres, J. Opt. Soc. America A 1, pp. 822-830, 1984	
		Hill et al., Morphology-dependent resonances associated with stimulated processes in microspheres, J. Opt. Soc. America B 3, 1509-1514	
		Lettieri et al., Resonance light scattering from a liquid suspension of microspheres, Appl. Optics 25(23), 4325-4331, 1986	
		Chylek, P. et al., Interference structure of the Mie extinction cross section, J. Opt. Soc. America A 6, pp. 1846-1851, 1989	

Examiner
Signature

Date
Considered

* EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹ Unique citation designation number. ² Applicant is to place a check mark here if English language Translation is attached.

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231.

Substitute for form 1449A/PTO

**INFORMATION DISCLOSURE
STATEMENT BY APPLICANT**

(use as many sheets as necessary)

3

of

4

C mplete if Kn wn

Application Number	10/702,320
Filing Date	NOVEMBER 5, 2003
First Named Inventor	PROBER ET AL.
Group Art Unit	UNKNOWN
Examiner Name	UNKNOWN
Attorney Docket Number	CL1665 US NA

OTHER PRIOR ART -- NON PATENT LITERATURE DOCUMENTS

Examiner Initials *	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ²
		Hill et al., Structural resonances observed in the fluorescence emission from small spehres on substrates, Appl. Optics 23, p. 1680, 1984	
		Conwell et al., Efficient automated algorithm for the sizing of dielectric microspheres using the resonance spectrum, J. Opt. Soc. America A 1, 1181-1186, 1984	
		Lam et al., Explicit asymptotic formulas for the positions, widths, and strengths of resonances in Mie scattering, J. Opt. Soc. America B 9, pp. 1585-1592, 1992	
		Chylek, P. Resonance structure of Mie scattering: distance between resonances, J. Opt. Soc. America A 7, pp. 1609-1613, 1990	
		Guimaraes et al., Uniform approximation to Mie resonances, J. Modern Optics 41, 625-647, 1994	
		Kaiser et al., Stable algorithm for the computation of Mie coefficients for scattered and transmitted fields of a coated sphere, Computers in Physics 7, pp. 682-686, 1993	
		Hightower et al., Resonant Mie scattering from a layered sphere, Appl. Optics 27, 4850-4855, 1988	
		Ray et al., Simultaneous determination of size and wavelength-dependent refractive indices of thin-layered droplets from optical resonances, Apl. Optics 34, pp. 7759-7770, 1995	
		Huckaby et al., Determination of size, refractive index, and dispersion of single droplets from wavelength-dependent scattering spectra, Appl. Optics 33, pp. 7112-7125, 1994	
		Hill et al., Sizing dielectric spheres and cylinders by aligning measured and computed resonances locations: algorithm for multiple orders, Appl. Optics 24, 2380-2390, 1985	
		Chylek et al., Simultaneous determination of refractive index and size of spherical dielectric particles from light scattering data, Appl. Optics 22, pp. 2303-2307	
		Whitten et al., Morphological resonances for multicomponent immunoassays, Appl. Optics 34, 3203-3207, 1995	
		Vollmer et al., Protein detection by optical shift of a resonant microcavity, Appl. Phys. Lett. 80, 4057-4059, 2002	
		Serpenguzel et al., Excitation of resonances of microspheres on an optical fiber, Optics Lett 20, 654-656, 1995	

Examiner
SignatureDate
Considered

EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹ Unique citation designation number. ² Applicant is to place a check mark here if English language Translation is attached.

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231.

Please type a plus sign (+) inside this box

+

PTO/SB/08A (08-00)

Approved for use through 10/31/2002. OMB 0651-0031

U.S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449A/PTO

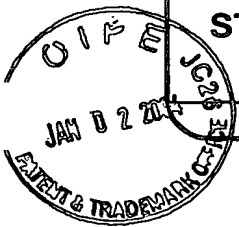
INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(use as many sheets as necessary)

4 of 4

Complete if Known

Application Number	10/702,320
Filing Date	NOVEMBER 5, 2003
First Named Inventor	PROBER ET AL.
Group Art Unit	UNKNOWN
Examiner Name	UNKNOWN
Attorney Docket Number	CL1665 US NA



OTHER PRIOR ART -- NON PATENT LITERATURE DOCUMENTS

Examiner Initials *	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ²
		Krioukov et al., Sensor based on an integrated optical microcavity, Optic Letters, Vol. 27, No. 7, pp. 512-514, April 1, 2002	
		Gorodetsky et al., Ultimate Q of optical microsphere resonators, Optics Letters, Vol. 21, No. 7, pp. 453-455, April 1, 1996	
		Vollmer et al., Multiplexed DNA Quantification by Spectroscopic Shift of Two Microsphere Cavities, Biophysical Journal, Vol. 85, 1974-1979, September 2003	
		Butkus, Silica microspheres enable sensitive DNA detection, Biophotonics in Practice, Biophotonics International, pp. 34-36, October 2003	
		Arnold et al., Shift of whispering-gallery modes in microspheres by protein adsorption, Optics Letters, Vol. 28, No. 4, pp. 272-274, February 15, 2003	
		Griffel et al., Morphology-dependent resonances of a microsphere-optical fiber system, Optics Letters, Vol. 21, No. 10, pp. 695-697, May 15, 1996	
		Krioukov et al., Integrated optical microcavities for enhanced evanescent-wave spectroscopy, Optics Letters, Vol. 27, No. 17, pp. 1504-1506, September 1, 2002	

36

Examiner
Signature

Date
Considered

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹ Unique citation designation number. ² Applicant is to place a check mark here if English language Translation is attached.

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231.